

1           1.    A method comprising:  
2                    implanting germanium at a dose greater than about  
3   2E16 atoms/cm<sup>2</sup>; and  
4                    forming a P-type source/drain extension in the  
5   region that has been implanted with germanium.

1           2.    The method of claim 1 including implanting  
2   germanium using an energy of at least 10 keV.

1           3.    The method of claim 1 including implanting the  
2   germanium to a depth greater than about 200 Angstroms.

1           4.    The method of claim 1 wherein forming a P-type  
2   source/drain extension includes implanting boron into the  
3   region implanted with germanium.

1           5.    The method of claim 1 including implanting the  
2   germanium using sidewall spacers on a polysilicon gate  
3   structure.

1           6.    The method of claim 1 including forming a  
2   strained source/drain extension.

1           7.    The method of claim 1 including implanting a P-  
2   type impurity into a region already implanted with  
3   germanium.

1           8.    The method of claim 7 including implanting  
2   germanium and P-type impurity at a ratio greater than 1 to  
3   1.

1           9.    The method of claim 8 including implanting  
2   germanium and P-type impurity at a ratio of approximately 4  
3   to 1.

1           10.   The method of claim 9 wherein implanting P-type  
2   impurities includes implanting boron impurities.

1           11.   A semiconductor structure comprising:  
2                a gate; and  
3                an implanted region including both germanium and  
4   P-type impurities.

1           12.   The structure of claim 11 wherein the ratio of  
2   germanium to P-type impurities is greater than one to one.

1           13.   The structure of claim 12 wherein the ratio of  
2   germanium to P-type impurities is approximately four to  
3   one.

1           14.   The structure of claim 13 wherein said P-type  
2   impurities are boron impurities.

1        15. The structure of claim 11 wherein said germanium  
2 is implanted to a depth greater than about 150 Angstroms.

1        16. The structure of claim 11 wherein said implanted  
2 region is a source/drain extension.

1        17. The structure of claim 16 wherein said implanted  
2 region is a strained source/drain junction.

1        18. The structure of claim 11 including a polysilicon  
2 gate.

1        19. The structure of claim 18 including a polysilicon  
2 gate with side wall spacers.

1        20. An integrated circuit comprising:  
2            a semiconductor structure;  
3            a gate formed on said semiconductor structure;  
4 and  
5            a source and a drain region, said source and  
6 drain region including both germanium and a P-type  
7 impurity, said source and drain region being strained.

1        21. The circuit of claim 20 wherein the ratio of  
2 germanium to P-type impurities is greater than one to one.

1           22. The circuit of claim 20 wherein the ratio of  
2 germanium to P-type impurities is approximately four to  
3 one.

1           23. The circuit of claim 20 wherein said P-type  
2 impurities are boron impurities.

1           24. The circuit of claim 20 wherein said source/drain  
2 region that includes both boron and germanium is a  
3 source/drain extension.